Graham Capital Management

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Feeling Underdiversified? Can Hedge Funds Really Help?

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Graham Capital Management

Graham Capital Management is a hedge fund specializing in liquid diversifying investment strategies, focusing on trend following/CTA, systematic and discretionary macro

$22.6B	**$11.0B**	**$11.6B**	**250+**
Total firm assets under management	Quantitative strategy assets	Discretionary strategy assets	People across 4 offices, including over 100 investment professionals

- Graham has been doing what we do for over 30 years for pension plans large and small, across corporate, public sector and state level.

Overview

- Graham Capital is unusual in that it is a hedge fund focused on very liquid, highly diversifying strategies—whether quantitative or discretionary.
- I’m a bit unusual as well, having worked as a finance academic, an allocator, and an investment consultant before joining Graham 10 years ago.
- In this talk, I’ll draw on my background and Graham’s expertise to explore why many asset owners’ portfolios are less diversified than they once were—and what can be done about it.

Feeling Underdiversified?

In recent years, the effectiveness of an equity/bond core has diminished.

- It's not just that equity/bond is performance diminishing (by almost 1/3), but:
  - Equities and bonds are getting notably positively correlated (***correlation increasing by over 2.5x***).
  - Equity/bond volatility is increasing dramatically (***annualized volatility shooting from 8% to 11%).***

→ **48%**
Decline in Sharpe Ratio

Remember, even if returns and volatilities of equities and bonds held firm from decades past, the Sharpe ratio would still drop (by almost 10%) purely due to the increase in equity/bond correlation.

Characteristics of a 50/50 Equity/Bond Portfolio: Now vs Then

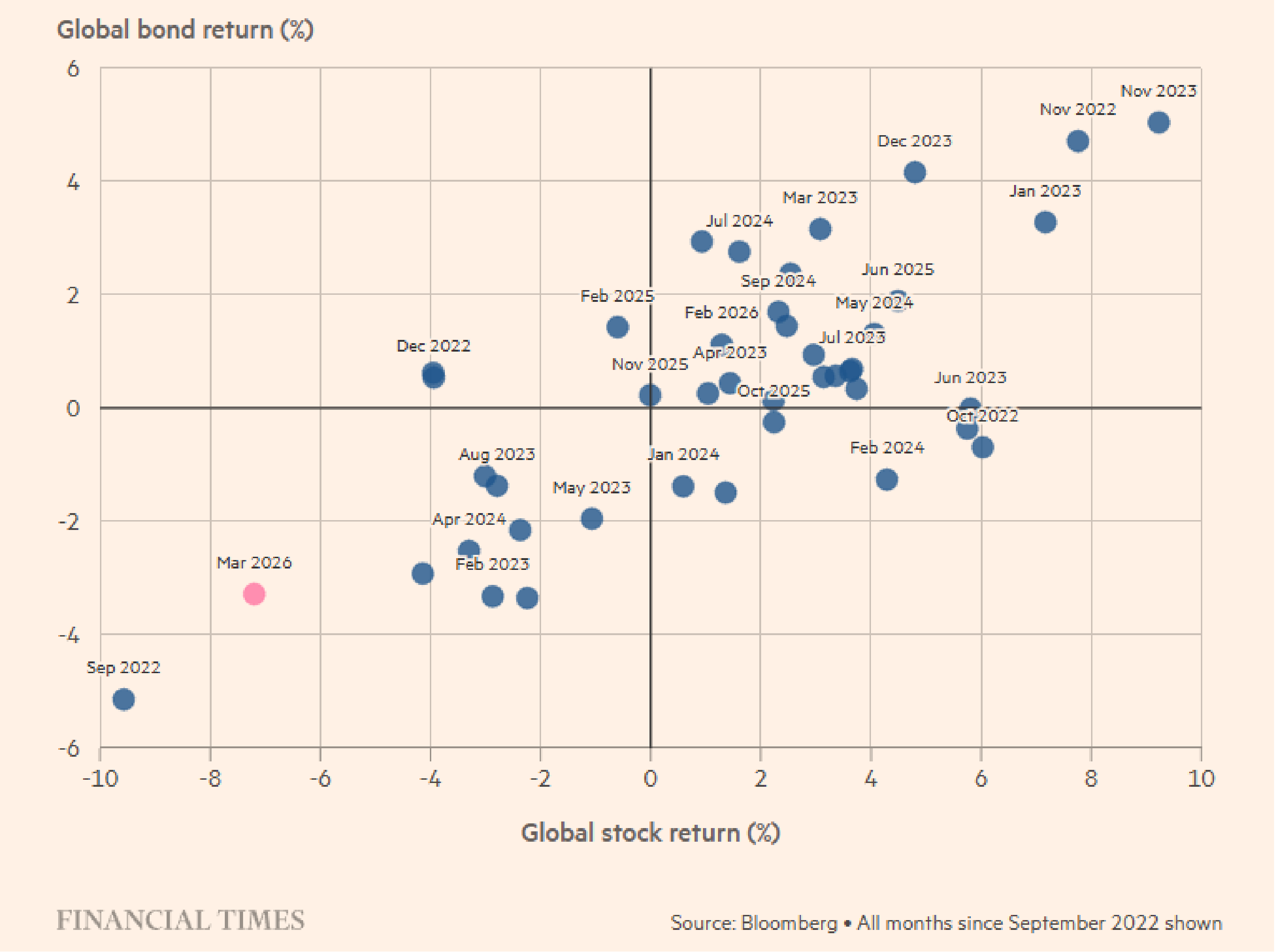
Time Period	*Return over Cash*	*Volatility*	*Sharpe Ratio*	*Correlation*
Jan-95 to Dec-19	4.24%	8.34%	0.51	0.24
Jan-20 to Feb-26	2.89%	11.03%	0.26	0.62
% Change	-11%	32%	-48%	161%

Data based on performance period from Jan-95 to Dec-19 and from Jan-20 to present.
Equities and bonds are represented by the MSCI World Index and the Bloomberg Global Aggregate Index, respectively.

PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS. WITH THE OPPORTUNITY FOR PROFIT COMES THE POTENTIAL FOR LOSS.

Feeling Underdiversified?

Monthly change in MSCI All Country World index (%) vs change in Bloomberg Aggregate bond index (%)



Can This Be Fixed?

Asset owners are being forced to act to modify their portfolios, just to get back to the pre-2020 state of portfolio efficiency and diversification.

- Portfolio diversification must be increased and return must be enhanced, just to get back to 'normal'.
- Few have the option to do nothing.

- What are the options for diversification?

PRIVATE MARKETS (e.g., Private Equity, Real Estate, Infrastructure)
Everyone 'maxed out' on illiquidity risk and, anyway, many don't like the outlook so much these days.

TACTICAL ASSET ALLOCATION and other active core strategies
If equities and bonds are selling off together, there's nowhere to hide (and these strategies tend not to be nimble).

DIVERSIFYING ASSET CLASSES (e.g., Crypto, Gold, Broader Commodities)
Not always diversifying, e.g., gold last month, March 2020, and Oct/Nov 2008.

OPTIONS STRATEGIES (e.g., put overlays)
Requires specialist expertise, active rebalancing, and a specialist structure, often making it a drag on performance.

HEDGE FUNDS AND LIQUID ALTERNATIVES
Not all hedge fund strategies are truly diversifying to the downside and there are issues of cost, transparency, and benchmarking.

Focus on Hedge Funds

When it comes to diversification, not all hedge funds are equal

- Especially in big market downturns when you need diversification most

	Performance when MSCI World 12-Month Return is:	MSCI World Index	HFRI Hedge Fund Indices							
			Macro Index	Trend Following	Relative Value	Emerging Markets	Event Driven	Credit	Equity Hedge	Hedge Fund Composite
Equities Up	30% or higher	39%	11%	5%	16%	33%	26%	16%	27%	22%
	20% to 30%	24%	6%	3%	9%	17%	13%	9%	15%	12%
	10% to 20%	15%	4%	1%	7%	13%	10%	8%	9%	8%
	0% to 10%	5%	3%	3%	4%	1%	2%	3%	2%	3%
Equities Down	0% to -10%	-4%	3%	1%	1%	-4%	-2%	-1%	-3%	-1%
	-10% to -20%	-15%	7%	8%	4%	-2%	0%	-3%	-3%	0%
	-20% to -30%	-24%	6%	3%	4%	-7%	1%	-6%	-7%	-3%
	-30% or lower	-41%	2%	4%	-14%	-33%	-19%	-12%	-24%	-17%

Using monthly returns from July 1999 – December 2025.
Index data is based on net performance of each respective HFRI Index from July 1999 to present, with the exception of the HFRI Trend Following Index and the HFRI Credit Index, which commenced in January 2008.

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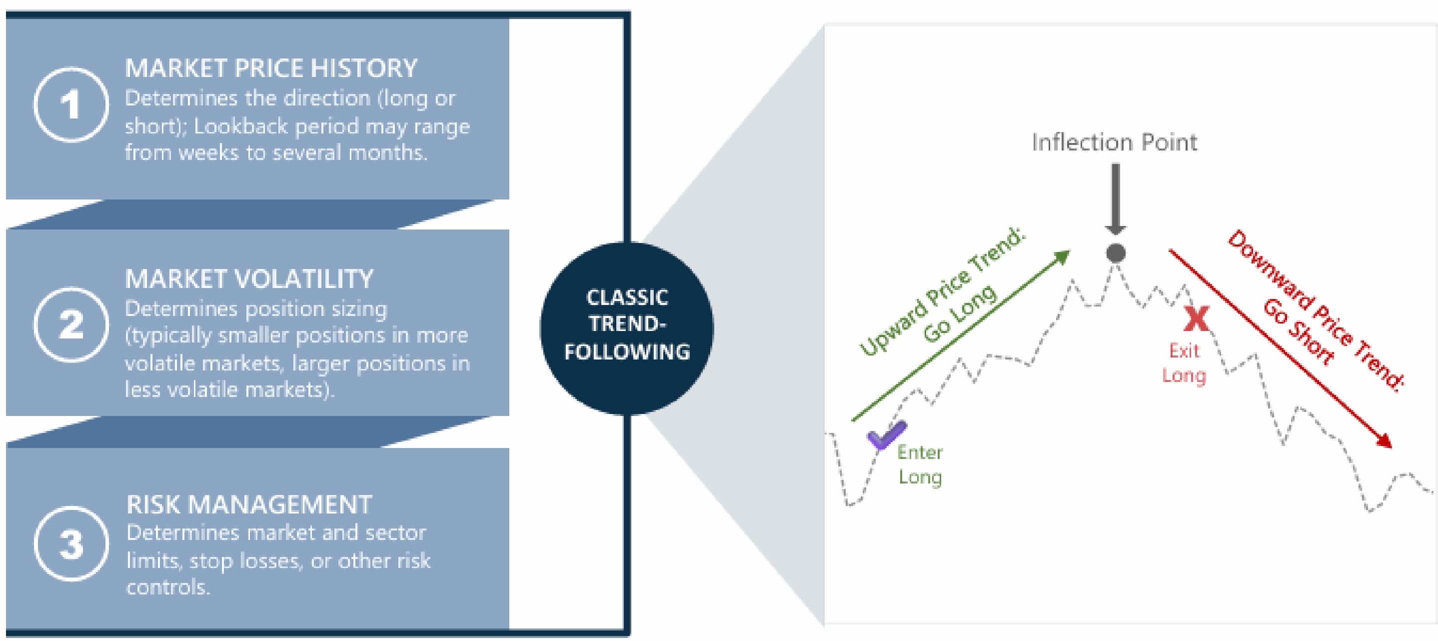
Trend Following Strategies

- Trend following strategies seek to profit from up- and down-trends in financial and commodities markets, usually in a systematic manner (i.e., algorithms not judgement)
- Long positions in upwardly trending markets, short positions in downwardly trending markets
- Although this sounds simplistic, many trend-followers use advanced signal processing and statistical techniques to extract signal from noise



Trend Following Strategies

There is a considerable body of academic research that suggests why markets may trend:

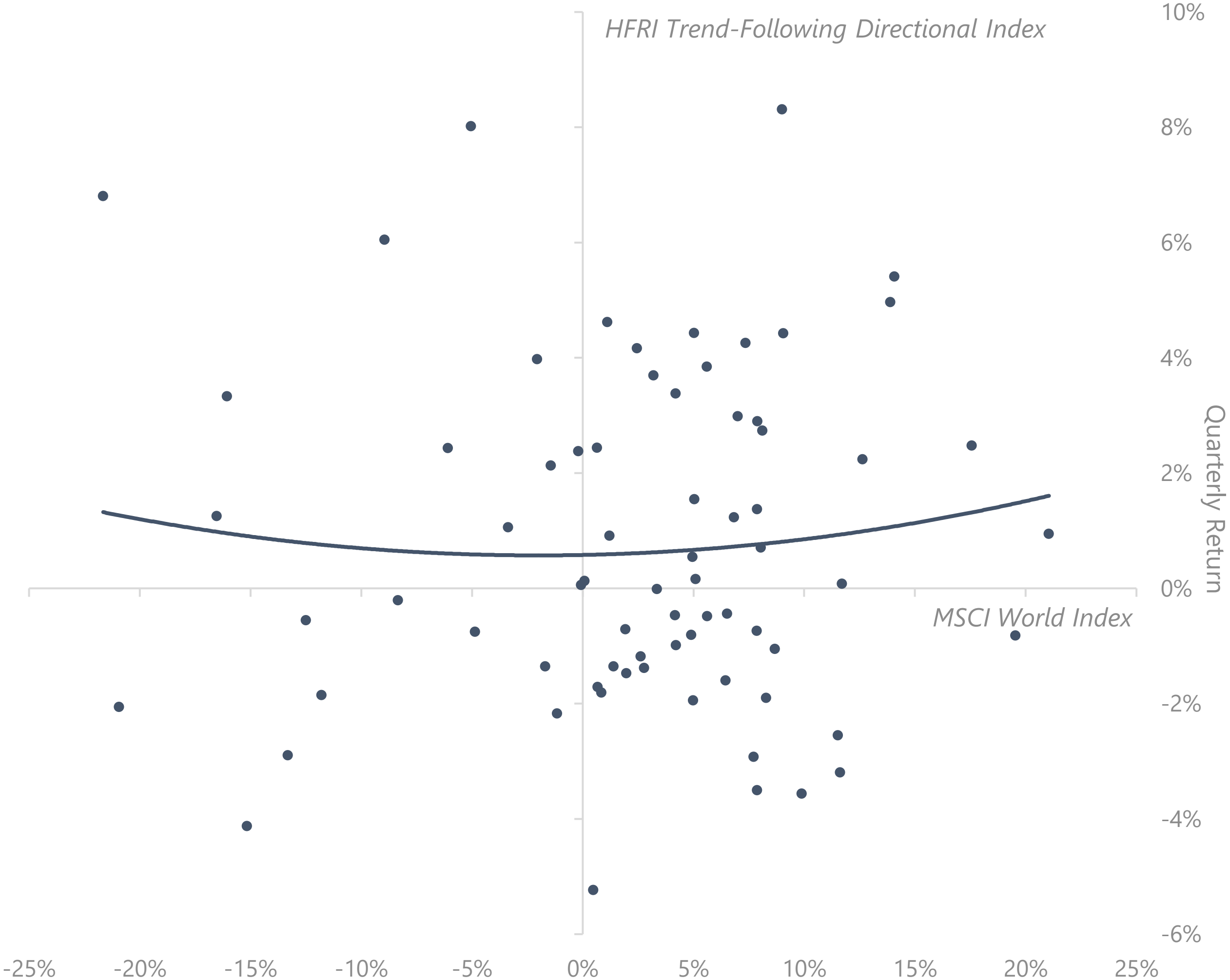
Confirmation Bias and Herding	Recent price movements are seen as representative of the future, so investors may buy appreciating assets. Bikhchandani et al. (1992)[1] showed that more market participants "jump on the band wagon" as trends develop, overextending them.
Disposition Effect	Frazzini (2006)[2] found that that investors tend to sell profitable trades early and run losses too long.
Markets Under/Over React	Tversky and Kahneman (1974)[3] find that people anchor their views to historical data and adjust their views insufficiently to new information causing prices to under-react to news (Barberis et al., 1998)[4]. Initially, markets "under-react" to new information and prices may move slowly to fully reflect "fair value". Then, trends may perpetuate as markets "over-react."
Non-Profit Seeking Agents	There are many market participants that are not directly profit seeking such as hedgers and those bound by rigid mandates, risk policies or rules (e.g. risk parity strategies) whose premia can be transferred to trend followers.

REFERENCES
[1] Bikhchandani, S., Hirshleifer, D., and Welch, I. (1992). "A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades," Journal of Political Economy 100(5), 992-1026.
[2] Frazzini, A. (2006). "The Disposition Effect and Underreaction to News," Journal of Finance 61, 2017–2046.
[3] Tversky, A. and Kahneman, D. (1974). "Judgment under Uncertainty: Heuristics and Biases," Science 185, 1124–1131.
[4] Barberis, N. Shleifer, A., and Vishny, R. (1998). "A Model of Investor Sentiment," Journal of Financial Economics 49, 307–343.

Trend Following Strategies

Trend Index Convexity vs Global Equities

(Jan-08 to Dec-25)



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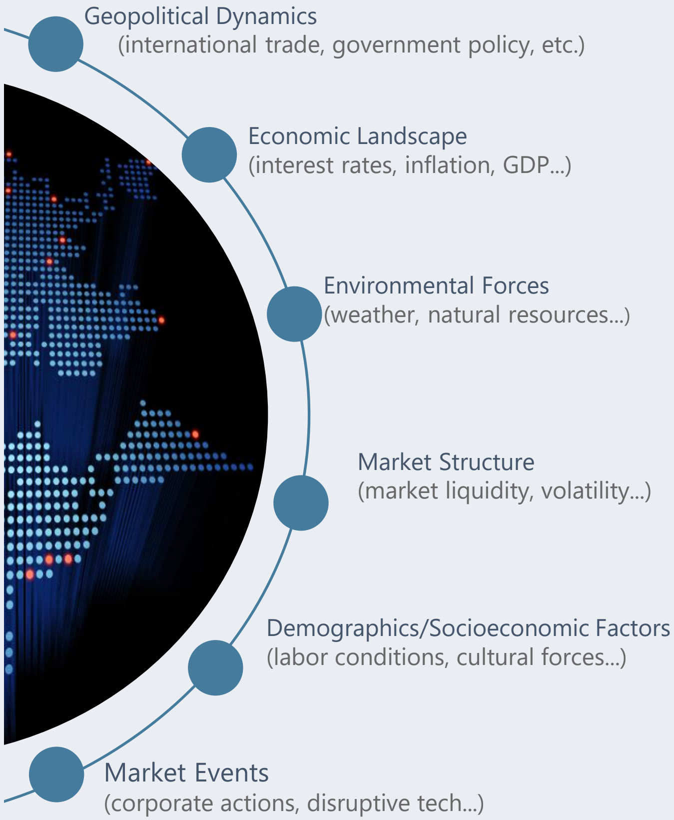
Macro Strategies

Macro Trading Drivers



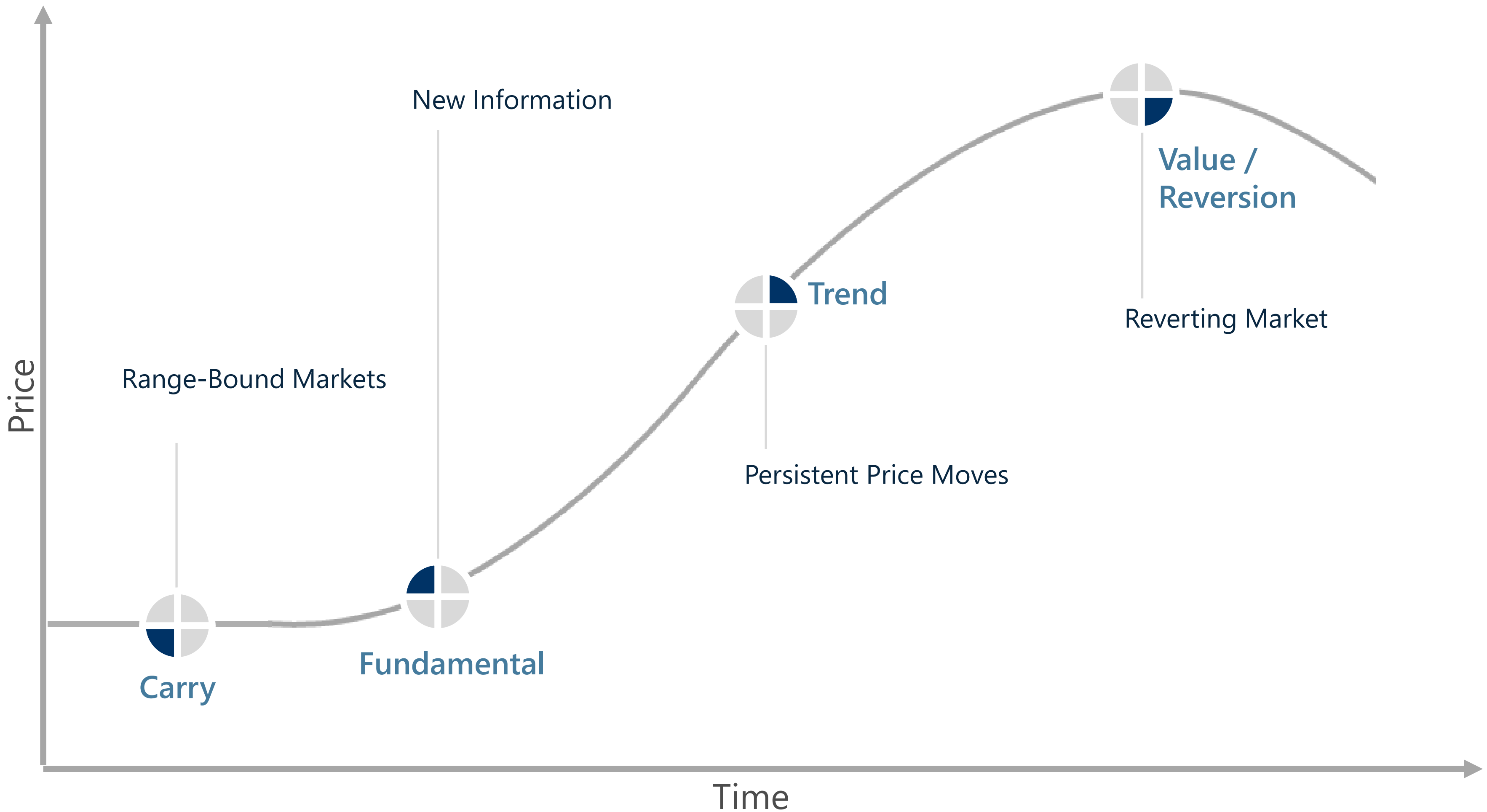
- Macro (or global macro) is an alternative investment strategy that seeks to profit from the impact of the macroeconomy and geopolitics on global markets.

- Trading is dynamic, with trading themes typically ranging from days to weeks and tends to focus on trading very liquid markets such as equity indices, government bond markets, commodity futures and FX.

- The nimble nature of the strategy means that positions can quickly adapt as new fundamental data and big news events moves markets.

- This strategy is as likely to make money from falling markets as it is rising ones.

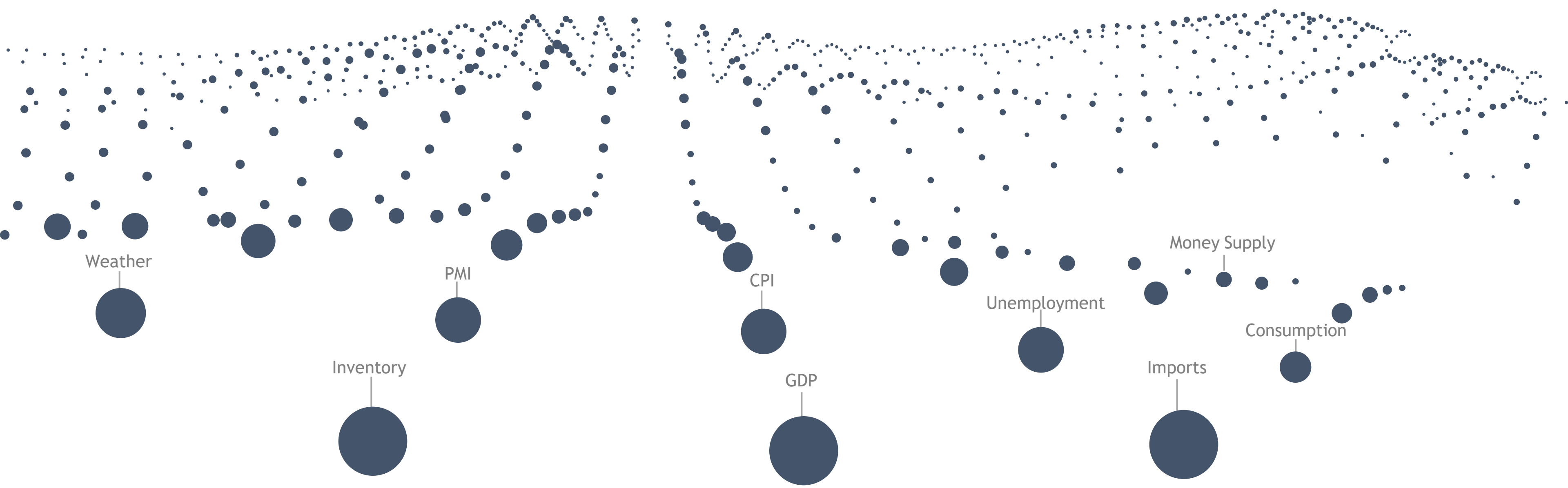
Macro Strategies: Core Trading Approaches



Macro Strategies: What Data Drives Decisions?

Examples of Fundamental Data that Drives Macro Decisions

- GDP
- CPI
- Unemployment
- Money Supply
- Output Gap
- Yield Curve / Interest Rates
- Terms of Trade
- Consumption
- Short Interest Positions
- Weather
- Inventory Balances
- Transportation Index
- Supply and Demand Ratios
- Imports/Exports
- PMIs
- Retail Sales
- Consensus Estimates
- Speculator Market Positioning Reports
- Options Market Data
- Income and Wages
- Open Interest



Where's the Catch?

- Consistency
- Fees
- Complexity
- Fund selection
- Benchmarking

Taking Things Further

"Every problem is an opportunity in disguise"

- Some asset owners are addressing the diminished benefit of the equity/bond core in their portfolio by adding a new layer of liquid diversifying strategies.

- The benefit here is it may also give them the opportunity to address other portfolio issues at the same time. For example:

    - Using liquid diversifying strategies to help with TAA.
    - Using liquid diversifying strategies to mitigate crisis risk.
    - Using liquid diversifying strategies to act as a completion fund to better balance their portfolios.
    - Capital efficiency through margining, overlay or portable alpha.
    - Or just improve diversification, efficiency and hence portfolio Sharpe ratio and returns.

Example: Custom Engineered Crisis Resilience

CASE STUDY

Custom-built crisis diversifiers constructed to complement clients' existing portfolios

CLIENT

Variety of US State Plans

OBJECTIVE

A number of US State Pension Plans were seeking to improve the efficacy of their crisis risk protection given the widely held fear of bonds being less diversifying going forward. In particular, improved consistency of crisis diversification was needed.

SOLUTION

The clients shared their anonymized portfolio data with us to allow us to create custom built diversifiers specific to each portfolio.

We then conducted analyses on what the best enhancing combination of strategies would be, specific to each client's individual portfolio.

Clients were then presented with a variety of options, allowing them to choose the best balance for their individual objectives between the magnitude of crisis return, the consistency of crisis return and the magnitude of long run return.

Such solutions implemented long volatility and long options portfolios and/or optimized portfolios of defensive assets, as well as building block active strategies and strands, all actively managed as a single solution for each client.

For clients seeking such a solution, this may be run as a margin funded overlay or a standalone portfolio holding.

Conclusions

Core portfolios are underdelivering: excess returns are lower, and volatility is higher, due in part to bonds no longer being the diversifiers they once were.

Many asset owners think things aren't going to change and are looking to sure up their portfolios by adding more diversifiers.

Hedge funds are often seen to be useful portfolio diversifiers, but some are more useful than others, especially when markets fall.

Macro and trend-following strategies seem to do that job well, but it is important to get the right fit.

Disclosure

INDEX DEFINITIONS

Graham’s strategies do not have formal benchmarks. However, the below are widely used hedge fund, fixed income and equity market indices that have been selected for comparison purposes only. Indices are unmanaged, and one cannot invest directly in an index. Except for HFR indices, which do reflect fees and expenses, the indices do not reflect any fees, expenses or sales charges. Unlike most asset class indices, hedge fund indices included in this presentation have limitations, which should be considered in connection with their use in this presentation. These limitations include survivorship bias (the returns of the indices may not be representative of all the hedge funds in the universe because of the tendency of lower performing funds to leave the index); heterogeneity (not all hedge funds are alike or comparable to one another, and the index may not accurately reflect the performance of a described style); and limited data (many hedge funds do not report to indices, and the index may omit funds which could significantly affect the performance shown; these indices are based on information self-reported by hedge fund managers which may decide at any time whether or not they want to continue to provide information to the index). These indices may not be complete or accurate representations of the hedge fund universe, and may be affected by the biases described above.

HFRI CREDIT INDEX: HFRI Credit Index is a composite index of strategies trading primarily in credit markets. It is an aggregation of following 7 HFRI substrategy indices. HFRI ED: Credit Arbitrage Index, HFRI ED: Distressed/Restructuring Index, HFRI ED: Multi-Strategy Index, HFRI RV: Fixed Income-Asset Backed Index, HFRI RV: Fixed Income-Convertible Arbitrage Index, HFRI RV: Fixed Income-Corporate Index, and HFRI RV: Multi-Strategy Index.

HFRI EMERGING MARKETS INDEX: The HFRI Emerging Markets Index is a sub-index of the HFRI Fund Weighted Composite Index and is a composite index comprised of Investment Managers who invest, primarily long, in securities of companies or the sovereign debt of developing or ’emerging’ countries.

HFRI EVENT-DRIVEN INDEX: The HFRI Event-Driven Index is a sub-index of the HFRI Fund Weighted Composite Index and is a composite index comprised of Investment Managers who maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety including but not limited to mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments.

HFRI EQUITY HEDGE INDEX: The HFRI Equity Hedge Index is a sub-index of the HFRI Fund Weighted Composite Index and is a composite index comprised of Investment Managers who maintain positions both long and short in primarily equity and equity derivative securities.

HFRI HEDGE FUND INDEX: The HFRI Fund Weighted Composite Index is an equal-weighted index that includes over 2000 constituent funds which have at least $50M under management or have been actively traded for at least 12 months. There are no fund of funds included in this index. All funds are reported in USD and returns are reported net of all fees on a monthly basis. Individuals cannot invest directly into this index.

HFRI MACRO INDEX: The HFRI Macro Index is a sub-index of the HFRI Fund Weighted Composite Index and is a composite index of over 900 Investment Managers which trade a broad range of strategies in which the investment process is predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard currency and commodity markets.

HFRI RELATIVE VALUE INDEX: The HFRI Relative Value Index is a sub-index of the HFRI Fund Weighted Composite Index and is a composite index comprised of Investment Managers who maintain positions in which the investment thesis is predicated on realization of a valuation discrepancy in the relationship between multiple securities.

HFRI TREND FOLLOWING DIRECTIONAL INDEX: The HFRI Trend Following Directional Index is a global, equal-weighted index of single-manager funds that report to the HFR Database. The HFRI Trend Following Directional Index is comprised of funds that employ trend following strategies such as Macro: Currency – Systematic, Macro: Systematic Diversified, certain Macro: Multi-Strategy funds and other Macro funds that utilize, to some degree, trend following.

MSCI WORLD INDEX: A market cap weighted stock market index of 1,652 global stocks and is used as a common benchmark for 'world' or 'global' stock funds. The index includes a collection of stocks of all the developed markets in the world, as defined by MSCI. The index includes securities from 23 countries but excludes stocks from emerging and frontier economies.

SG MACRO TRADING INDEX: The SG Macro Trading Index is designed to represent the performance of global macro hedge fund managers who trade across global fixed income, currency, equity, and commodity markets based on macroeconomic and geopolitical themes. The index includes both discretionary and quantitative macro strategies. Managers must meet eligibility criteria established by Société Générale, including minimum assets under management requirements and a demonstrated focus on macro trading strategies. The index is equally weighted, rebalanced monthly, and reconstituted quarterly.

SG MACRO TRADING INDEX (DISCRETIONARY): is a subset of the SG Macro Trading Index and is designed to represent global macro managers who typically employ top-down fundamental research to forecast the effect of global macroeconomic and political events on the valuation of financial instruments. These strategies comprise programs in which investment decisions are made on a discretionary basis. Managers must meet the following criteria: Manager must trade predominantly a global macro strategy (as determined by SG); Firm AUM must be greater than $30 million. The SG Macro Trading Index is equally weighted, rebalanced monthly, and reconstituted quarterly.

SG MACRO TRADING INDEX (QUANTITATIVE): The SG Macro Trading Index (Quantitative) is a subset of the SG Macro Trading Index and is designed to represent global macro managers who primarily employ systematic and quantitative investment processes. These managers utilize mathematical models, statistical techniques, and algorithmic trading systems to identify macroeconomic trends and establish directional positions across global asset classes. Programs included in the index rely predominantly on systematic signals rather than discretionary decision-making. Managers must meet eligibility criteria established by Société Générale, including minimum assets under management requirements. The index is equally weighted, rebalanced monthly, and reconstituted quarterly.

Disclosure

IMPORTANT INFORMATION

Source of data: Graham Capital Management ("Graham"), unless otherwise stated

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